Dvorak Developments

Dvorak Developments #46 (Volume 13, Number 4) — Summer 1986

AEtna Managers Learn Dvorak

by Randy Cassingham *©1986*

Managers at AEtna Life and Casualty Insurance Company are learning to use the Dvorak keyboard. The managers, who have generally not had to type before as part of their work, are increasingly using personal computers on the job. To get the most out of their new computers, improved keyboard skills are necessary, and Dvorak is much easier to learn and use than Qwerty.

The managers are typically non-typists, but some Qwerty typists are also being retrained. "We have found the results favorable in both groups," said **Jack Walburn**, Assistant to the President of the

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'As PCs are distributed out to the field offices, we try to be ahead of that and make sure that we provide Dvorak training for them.'

...

AEtna Institute for Corporate Education. The Institute is responsible for the education and training of all employees of the insurance company, both in the main office and in field offices.

"Because of the direction that AEtna is going in," Mr. Walburn said, "we're encouraging the use of PCs in business. This is a very important direction for us. As PCs are distributed out to the field offices, we try to be ahead of that and make sure that we provide Dvorak training for them."

The training is being done on the PCs, which have been converted to Dvorak with the program PC/DVORAK by the Age of Reason company. The program intercepts the keystrokes from the computers' Qwerty keyboard and sends the corresponding Dvorak characters to whatever program is running on the computer.

The managers are being introduced to the Dvorak by using the Smith-Corona "Short Course" Dvorak typing manual written by Dr. Dvorak. After about two hours with the book, they switch to a computer-based tutorial, usually the Dvorak version of "Typing Made Easy", a typing training program published by QED Information Sciences. The students train for two one-hour sessions and are encouraged to take frequent breaks. It takes them an average of 14 hours to reach the minimum goal of 25 words per minute on this training schedule.

All of the program participants so far have been volunteers. AEtna is not forcing the managers to switch keyboards, Dvorak consultant **Lura Mudgett** said. "However, those who don't type at all or those who are having trouble learning the Qwerty keyboard — which we all know takes probably two years (of training) to get anywhere at all — those people I think are targets (for Dvorak training)," she said. "One woman estimated she spent about 2000 hours trying to learn to type Qwerty at about 37 words per minute. And I believe her, because I think that's been the experience of most of the women that have learned how to type."

Ms. Mudgett helped the woman change over to the Dvorak. She learned the new keyboard quickly, reaching 27 WPM in 15 hours. "That's a darn good showing for that little amount of time," Ms. Mudgett said. "We all know Dvorak is the better keyboard, it's just a matter of getting people to recognize that."

Currently, AEtna does not plan to convert production typists to Dvorak, though the decision is not final. "We're looking at how we're going to implement the training process, trying to outline our audiences, and still our direction is probably to the managerial level," Mr. Walburn said. "Conversion in production areas probably is not feasible at this time for us," he said.

Mr. Walburn is pleased with the results of the program so far, although he acknowledges that not everyone in the company knows how easy it is to switch to the new keyboard. "I think we're priests, I know we're priests. Knowing that it would take an amount of time and seeing company attitudes changing toward it. As people are exposed, they realize that it does not present the obstacle that they initially thought it did. True, there are factors that are involved in conversion, but I think that the dollar figures are not as great as people originally conceive, and the time factors are not as great as people originally conceive. It comes down to whether people are willing to make some sacrifice for the present for longer term rewards," he said.

Dvorak Developments Moves

Freelance Communications, the publisher of ***Dvorak Developments*** and the book *The Dvorak Keyboard* moved this month to Upland, California.

The newsletter will continue its quarterly schedule and prices will remain constant. All orders and inquires should go to the new address effective immediately. The new address is **PO Box 1895, Upland CA 91785.**

Dvorak Keyboards for the Handicapped Typist

by Virginia deG. Russell
President, Dvorak International Federation

With hundreds of thousands of people being introduced to keyboards, comfort of the typist has become an important consideration. The need for a more efficient keyboard has become evident. It is proven that the Qwerty keyboard is difficult for two handed typists to learn. Given that fact, learning Qwerty — or for that matter any two handed keyboard — is practically impossible for one handed typists.

There is increased consideration today for the handicapped. For example: ramps have been installed in public places for wheelchairs. Handicapped parking spaces are required in public lots. In spite of this interest, there is still very little concern for handicapped workers in the office. Typing on the Qwerty keyboard is extremely difficult and frustrating for a one handed person. Consequently one handed typists are a rarity. With keyboards specifically designed for left or right handed typists, it is possible for the single handed to become productive keyboarders.

In 1945, Dr. Dvorak developed one handed keyboards for left and right hand typists. The one hand keyboards were intended to increase job possibilities for veterans returning from World War II minus an arm. The keyboards were not highly publicized because

Continued on page 3

Letters

Portable Dvorak

Thanks for the quick response in sending your book and back issues of *DvDv*. I was starting to get disinterested in mastering the Dvorak, but your publication has renewed my determination and I'm back on a regular training schedule.

I'm hoping to take a computer class but they are using IBM PCs with no Dvorak support. I was thinking about purchasing SmartKey. Would that be the way to 'Go Dvorak' in class?

Bill De Marco
Socorro, NM

We're glad to hear that we have kept your interest. Yes, SmartKey would be a good way to easily carry your Dvorak keyboard from computer to computer. You need to be able to touch type, though, because the computer's physical keyboard will still have Qwerty legends on it. It is unlikely that you'll be able to use such aids as the Hooleon keytop overlays (reviewed in the last issue) to aid sight typing on someone else's computer.

There are some software packages that defeat software-based conversions such as SmartKey's because they 'take over' the keyboard, but they are relatively rare. If you do have a problem you could carry around your own keyboard, such as the Maxi-Switch Dvorak model that was also reviewed in the last issue. Either way, you will likely create a sensation in the classroom showing off your easy typing method.

Apple IIc

My wife wanted an Apple IIc because I was constantly hogging our IIe. We went to a local dealer and checked the Dvorak keyboard to make sure it conformed to the ANSI standard. All was well and we decided to get a IIc when our finances allowed. When the day came and we found a better deal at a different dealer, we took our new IIc home.

After powering it up, I immediately found that the Dvorak keyboard was not the ANSI but the (older) ASK version. It took two months to get the problem resolved, and only after speaking to tech support at Apple Computer.

I had to explain the whole story to at least three people at Apple before I got someone that understood what I was talking about. He said that since the IIc was now being made overseas, the keyboard ROM being used had somehow been mixed up with the wrong keyboard version. The proper version is the Revision 'D' ROM, which we now have in our computer.

For those of you who plan to buy a IIc, make it known from the start that you will not settle for anything other than the proper version of the Dvorak keyboard and check it out before you go home with it.

Rod Crandall
Faultline Micro
Fullerton, CA

The ASK (American Simplified Keyboard) is an earlier variant of the now-standard ANSI (American National Standards Institute) version of the Dvorak keyboard. It differs in the placement of quote, semicolon, and slash keys. The diagrams in ***Dvorak Developments*** *conform to the ANSI standard, which we endorse above the older versions.*

More on the ANSI Standard

I have been interested in the Dvorak keyboard for a long time but never did anything about it until recently.

A Maxi-Switch keyboard for the IBM PC was purchased recently and I started to relearn touch typing on it. Also developed a simple Exidy Sorcerer conversion program to practice Dvorak at home. The layout used was a combination of the present Sorcerer layout and the Maxi-Switch layout.

Your last newsletter included a letter from a reader on this subject but I think you missed the writer's point in your response. You discussed the layout of the keys but ignored the ASCII codes.

Your keyboard diagram uses a cents sign over the 6. Almost all computers do not use the cents sign but do require the carat.

I agree that a standard layout for the full ASCII character set is needed for standardization. Your layout is unacceptable and incomplete for use on computer keyboards. The Maxi-Switch layout is fine with me but a standard similar to theirs is needed.

Larry Stempnik
Warren, MI

Sorry I didn't make things clear in my response to the other letter writer. The fact is, the ANSI (American National Standards Institute) standard for the Dvorak does indeed cover computer symbols and, in fact, the Maxi-Switch keyboard follows the ANSI standard very closely.

The standard allows for the substitution of certain characters to accommodate specific uses of the keyboard (such as for computer use). The cent sign above the 6, for example, may be replaced by the carat (also known as the circumflex) for ASCII (American Standard Code for Information Interchange, the coding used for computer communications) keyboards. The keyboard standard also allows for the backslash, the vertical bar, brackets, and other

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Send Letters to: Editor, Dvorak Developments, PO Box 1895, Upland CA 91785. Letters selected for publication will be edited for length and clarity.

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Dvorak Keyboards for the Handicapped Typist

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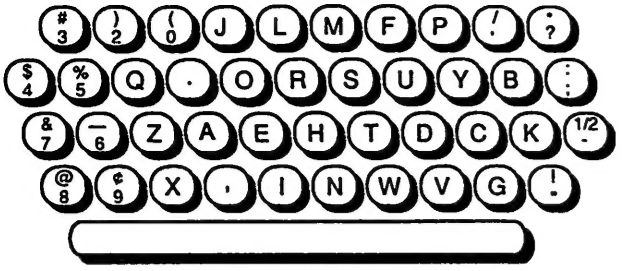
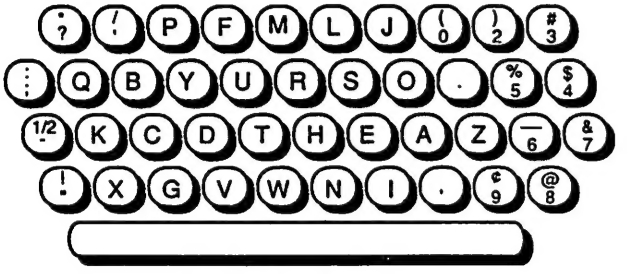


Dvorak "classic" keyboard
for the right hand.



Dvorak "classic" keyboard
for the left hand.

there was no way different keyboard arrangements could be easily manufactured in the pre-electronic age.

Consideration in the forties to the needs of the handicapped was almost non-existent. This was a deterrent to the handicapped succeeding in the officeplace. Like the Dvorak two handed keyboard, it took the computer revolution to implement keyboards for one handed typists. With the awakening to the needs of the handicapped in the workplace and the ease of keyboard remapping, there is no longer a reason to turn away a one handed typist who can be trained to reach the 40 words per minute required by many companies.

A good keyboard for one hand typists must equally distribute the typing load among the four fingers. Emphasis on the one hand keyboard is on the strongest finger, the forefinger. Easily in reach from the home row on the Dvorak one-hand keyboards are the 23 keys which account for 96.5 percent of typing!

The one hand keyboards are easier to master, less fatiguing to operate, and produce more accurate typing. Testing on dozens of veteran and civilian one handed amputees and paralytics have shown cases in which most learned to type adequately within two or three months. One typist learned to type 54 net WPM in ten weeks.

(Editors note: Virginia Russell has offered to supply more information on the Dvorak one-handed boards. Her number is (802) 247-6020. The diagrams are from a chapter on the Dvorak one-handed keyboards in the book The Dvorak Keyboard *by Randy Cassingham. The typists' four fingers would normally rest on the E-H-T-D keys. Diagrams ©1986 by Freelance Communications.)*

Our Lowest Price Ever

The Dvorak Keyboard is the first book of its kind. It gives you a clear explanation of the logical design and evolution of the Dvorak, information on how to convert, the reasons why we are still using the 19th Century Qwerty keyboard, hard-to-find information on Dvorak's one-hand keyboards, and more.

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To celebrate our move to Southern California, we are offering a special price on ***The Dvorak Keyboard.*** *Just subscribe (or renew your subscription) to* ***Dvorak Developments*** *for the normal price of $12 for one year and you can have a copy of* ***The Dvorak Keyboard*** *for only $10, including shipping!* That's a savings of $3.95 — our lowest price ever.

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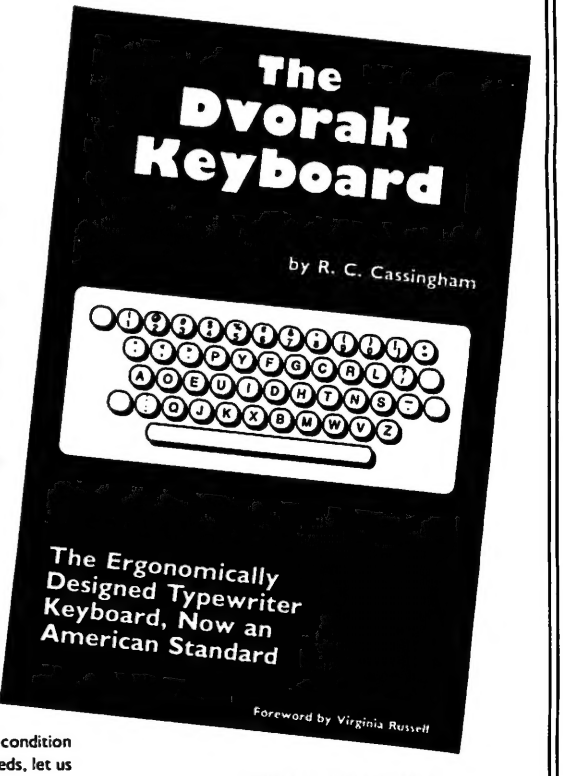

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From the Editor's Keyboard

by Randy Cassingham

This issue marks the conclusion of the first year of ***Dvorak Developments*** under its new publisher. We are pleased at the very positive reception of the new format. Subscription renewals are high, an indication to us that we are giving you what you want.

Our subscriber base is quite varied. There are many professionals, including many doctors and lawyers. Computer specialists, huge corporations, secretarial bureaus, and insurance agencies. And, of course, many individuals who just want an easier way to type at home and work.

In the last year, ***Dvorak Developments*** has been getting favorable mentions in many publications: computer magazines such as *InfoWorld* and *Byte*, business publications such as the Los Angeles Business Journal and *Attorney's Office Management Report*, educational journals such as *Technological Horizons in Education*. What does this all mean for the Dvorak? It shows that the keyboard is a hot topic in many fields. It shows that people are interested in finding out about Dvorak's increased productivity, ease of use and learning, and the lessened typist fatigue at the end of the day. And it is a harbinger of increased utilization of the keyboard that will save taxpayers and businesses hundreds of millions of dollars per year.

New Directions

Where do we go from here? As we start another year from our new location in Southern California, there are a lot of things left to cover. You will see more success stories of companies who switch to Dvorak. Reports of studies on the keyboard. Of course, introductions to new products that support the keyboard — and our overviews of those reports — will continue to be highlighted.

Are we doing the job you expect of us? Is there something else you need to know or want us to cover? Let me know. Write to me and tell me how the newsletter is doing. I can't promise to answer all letters, but I do promise to read them and listen to your suggestions, complaints, and praise. The most interesting comments will be run in the letters section.

New Dvorak Office Machines

You'll notice a new advertiser in this issue: Silver Reed. They plan to introduce several new Dvorak machines at the NOMDA (National Office Machine Dealer's Association) show in July. Silver Reed apparently got a good response on their test marketing of their Dvorak-equipped EX 55 typewriter, which I understand is completely sold out now. If you have any interest in Dvorak-equipped office machines, send in the coupon on the ad and they'll send you a brochure on the new machines. If you prefer not to cut the newsletter, make a photocopy of the form or just write them a letter.

This is an interesting development in the evolution of the Dvorak; other typewriter companies will be watching closely. We wish Silver Reed great success.

Educational Interest

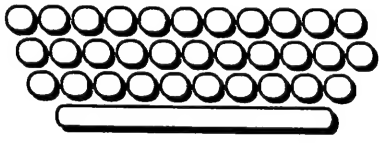
The educational journal *Technical Horizons in Education* ran a small item in their March issue telling their readers about this newsletter. The result was **hundreds** of inquiries from interested educators. As I've said before, we need to get the Dvorak into the schools to make it a complete success. I'm glad to see that our teachers know about the Dvorak and are showing an interest in it.

'Snide Remarks'

PC magazine ran a very short notice in their June 10th issue. It quoted me — as the author of *The Dvorak Keyboard* — as saying "I think Qwerty is seeing its last days." They called the remark "dubious" and a "fantastic claim". Unfortunately, they didn't quote me completely. The rest of my statement was that "with the demands of productivity, and the need for basic typing skills now that computers are commonplace, the more efficient and easier-to-learn Dvorak will **eventually** replace Qwerty entirely."

Clearly, most managers don't have time to learn how to type adequately, making the computers showing up on their desks much less of a productivity tool. At a California middle school (sixth, seventh and eighth graders) which taught Dvorak typing in a pilot project, the average student learned the Dvorak in 10 hours. At the end of the *first* semester, the average speed of these students was 49 *net* words per minute. Why should executives waste their time on Qwerty if they can get results like this by using Dvorak to begin with?

It seems that *PC* Magazine's readers are more interested about the Dvorak than the editors of that magazine give them credit for; there have been many orders for the book as a result of the item. One caller said he was ordering a copy "despite the snide remark in *PC*." I guess negative publicity is better than no publicity...



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2. Do you use Dvorak for ☐ Business Use ☐ Personal Use ☐ Both
3. What is/was your typing speed using Qwerty _____
4. What is your typing speed using Dvorak _____
5. If a typewriter with Dvorak were readily available at identical pricing to Qwerty, would you plan on purchasing ☐ Immediately ☐ Next 6 months ☐ Within the year ☐ Other (please explain) _____

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9 ☐ 2,500 & Over
0 ☐ Not Specified

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1 ☐ 1-19
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3 ☐ 50-99
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5 ☐ 250-499
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Product Overviews

Product overviews are detailed descriptions of Dvorak-related products. The regular 'for sale' version of the product is tested, then described in full so that readers can make intelligent choices on what products fit their needs. Opinions expressed in the overview are those of the author.

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SmartKey 5.1: Good Conversion at a Good Price

Reviewed by Bob Nelson and Randy Cassingham

Description: Keyboard macro/redefinition software, Version 5.1 for the IBM PC and compatibles, $59.95, not copy protected.
Supplier: Software Research Technologies, 3757 Wilshire Blvd. Suite 211, Los Angeles CA 90010, (800) 824-5537 (in Calif: (213) 384-5430).
Machine used for test: Leading Edge Model 'D'.

SmartKey, like many macro programs available for the IBM PC and its clones, allows you to program several keystrokes onto any key. Then you can play back that string of text of commands at any time by pressing that key.

SmartKey's many features make it powerful and impressive, especially for a program that doesn't gobble up computer memory (a minimum setup requires only 28K of RAM). SmartKey takes up much less memory than the other PC keyboard programs, it has an enormous number of features, and it is very easy to use.

But the really interesting thing about the SmartKey package is that you can use the package to convert your PC to Dvorak *without* the SmartKey program. Included on the disk is a nifty program called 'DVORAKEY' which, among other things, remaps the keyboard to Dvorak. SmartKey itself can remap the keyboard to Dvorak, but it isn't as convenient to use as DVORAKEY.

DVORAKEY is actually a copy of the PCKEY program that comes on the SmartKey disk. The PCKEY/DVORAKEY program allows you to remap the keyboard by moving any key to any position (the DVORAKEY version is already set up for Dvorak). It will

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'The DVORAKEY program works so well without SmartKey it might be worth the cost of the package by itself.'

...

also blank the screen if you stop working on the computer for a while, allow you to set the control, alt, and shift keys for "toggle" action (great for one-handed keyboard operation if you are handicapped), and let you set an adjustable "key click" which serves as an convenient reminder if you accidentally hold down a key.

Possible problems with using the SmartKey package include incompatibility with some computers. PCKEY/DVORAKEY didn't run on our Osborne 3, an MS-DOS laptop computer. SRT advises that PCKEY won't run on several 'compatible' machines, though the SmartKey program itself will run on most of them. We didn't have any troubles with the PCKEY/DVORAKEY program on our Leading Edge (a popular PC clone) or on a true-blue IBM PC.

If you plan to run this software on a not-so-compatible machine, you might have problems. Otherwise, SmartKey/PCKEY combination is a very good package for a reasonable price. The program retails for $59.95 ($10 higher than the earlier 5.0 version, but worth it). For Dvorak use, the DVORAKEY program works so well without SmartKey it might be worth the cost of the package by itself.

We also tried SmartKey 5.0, an earlier version of the same package. Version 5.1 has several additional features that makes it more attractive than 5.0, including the elimination of some 'bugs' that gave us some trouble. If you already have 5.0, we recommend upgrading to the new version.

Note that the operation and features of SmartKey 5.1 are *very* different from versions of SmartKey designed for other computers. We will be reviewing the CP/M version of SmartKey (that runs on such computers as the Osborne and Morrow), and a special version that was written for the Kaypro CP/M machines in a later issue, along with their main competitor, XtraKey.

Letters *Continued from page 2*

ASCII symbols needed for computer use.

The blank keys on our diagram are also blank on the standard layout diagrams. They are there to allow for other characters as needed on modern keyboards, including graphic characters. This would allow, for instance, typesetting keyboards (which need many extra controlling characters) to follow the standard. The standardized Qwerty keyboard also has such blank keys and allows for similar substitutions.

If you are interested in finding out more about the Dvorak standard, I would suggest that you get your own copy of the complete text (12 pages). It is available from the American National Standards Institute Inc., 1430 Broadway, New York NY 10018. Ask for standard number X4.22-1983. It's title is American National Standard for Office Machines and Supplies — Alphanumeric Machines — Alternate Keyboard Arrangement. Last we heard, a copy cost $8.

— ANNOUNCING —

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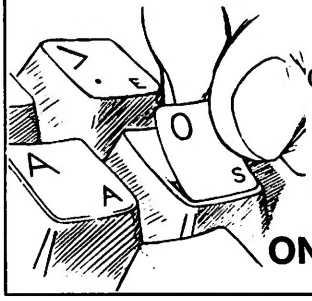

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Not all Directory Assistance Operators use Dvorak

One of the most extensive applications of the Dvorak layout is by directory assistance operators. Before the AT&T breakup last year, 14,000 Dvorak equipped computer terminals were installed for these workers, whose jobs are quite keyboard intensive. It pays to get these people off the telephone as quickly as possible and on to the next customer.

But in California, things don't seem to be as progressive. A check with Pacific Bell's public relations office finds a completely different computer keyboard in use.

The PR spokesperson seemed to know quite a bit about what the Dvorak was, but according to her directory assistance operators in California use keyboards with an *alphabetic* arrangement. The spokesperson said that arrangement was chosen "so the terminals would be easier for non-typists to use".

Unfortunately for Pacific Bell, alphabetic arrangements are counter-productive, according to a study by the University of California at San Diego. That study showed that the alphabetical arrangement did not help typists find letters easier than on, for instance, the Qwerty keyboard. In the study, most of the subjects even preferred a random arrangement over the alphabetical keyboards.

Since many workers may already know how to type on the Qwerty or Dvorak keyboards, an alphabetical arrangement will just slow those workers down. Not smart for a company trying to save its customer's money.

A more realistic approach is to introduce Dvorak keyboards into keyboard intensive installations. The Dvorak is easier for the non-typists to learn, and once mastered will enable the most productive work to be done.

The Qwerty layout was also briefly studied in the UCSD experiment, though none of the experimental subjects chose it as a preferred layout over the alphabetical or even the random layouts. The Dvorak keyboard was not studied.

Back Issues

• Fall, 1985. Report on federal agencies starting conversion projects. DIF proposes federal tax credit. Listings of 23 companies with Dvorak-related products. Background information about DIF. 13 bibliographic entries. 8 pages, $2.

• Winter, 1985. IRS estimates $775 million/year savings by converting field examiners to Dvorak. Smithsonian requests Dvorak typewriter. Listings of 8 companies with Dvorak products. Product overview on Keyer. 4 bibliographic entries. 6 pages, $2, very few copies left.

• Spring, 1986. New Line of Dvorak Typewriters to be Announced. Virginia Russell's column on Repetitive Strain Injuries and keyboarding. Report on the controversy brewing over the issue of finger travel. Listings of 4 new Dvorak products. Product overviews on MacQwerty, Hooleon Overlays, SuperKey, the Maxi-Switch keyboard, and Keyboard Cadet. 5 bibliographic entries. 8 pages, $2.

Send Check or money order for back issues to: Freelance Communications, PO Box 1895, Upland CA 91785. Price includes first class mailing.

(For copies of back issues of the DvDv forerunner *Quick Strokes*, contact the old publisher: Quick Strokes, PO Box 643, Sacramento CA 95691.)

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Free Listing of Dvorak Products

We've compiled a current listing of Dvorak products from the pages of *Dvorak Developments*. For a free copy, send a self-addressed stamped business size envelope to: Dvorak Products, PO Box 1895, Upland CA 91785.

Flying Fingers

Did Barbara Blackburn really "flunk" high school typing, which has been reported in some of the articles about her? Mrs. Blackburn is well known for her phenomenal two-hundred words per minute pace (with no errors) while at her Dvorak equipped computer. Mrs. Blackburn flunking typing would be akin to the legend of **Albert Einstein** flunking math.

Einstein may or may not have actually flunked math, depending on whom you listen to. But there isn't any dispute about Mrs. Blackburn: she *really didn't* meet the requirements for passing her high school typing class.

"The required passing score was 50 WPM with not more than five errors in a 15 minute timing," she said. "I achieved the 50 WPM, by my error ratio was 15 to 20 errors *per page*." She took two years of typing in high school — on the Qwerty keyboard.

In business college, Mrs. Blackburn was introduced to the then-new Dvorak Simplified Keyboard. She graduated from the college with the highest grades of anyone who had ever attended the school, 14 months after she entered. And she typed 90 WPM on her Dvorak-equipped typewriter.

Today, on her Apple IIc personal computer, she often runs herself through short tests on the Mastertype tutorial software which she helped develop. On those short tests, the computer automatically computes her typing speed. "I have seen '212 WPM' come on the screen many times," she said.

Mrs. Blackburn showed off her skill on a TV commercial for the IIc, though Apple didn't mention that the Dvorak was responsible for her success.

Bibliographic Notes

- *Computer Technology Review*, Winter 1985. A fairly technical article about the Dvorak, written by **Virginia Russell**. Using tables and studies, she proves the superiority of the Dvorak layout.

- *Amtrack Express*, April/May 1986. Basic informational article, with a quick profile of Dvorak speed champion **Barbara Blackburn**. The article warned readers "Don't even think of challenging her unless you can type more than 200 words per minute."

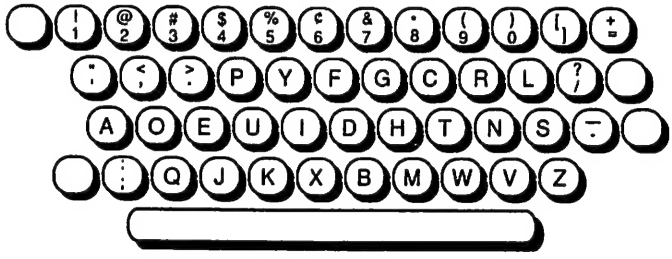
- *Computer Living*, May 1986. A short informational article on the Dvorak, including mention of the government's efforts to start the conversion process.

- *Working Woman*, June 1986. An interesting article about the Dvorak, told with a short profile of **Virginia Russell**.

Classified

Apple IIe (ANSI) Dvorak/QWERTY Keyboard Switch
Easy installation, overlays display Dvorak in Black, QWERTY in white, color matched, transparent to all soft/hardware.
Complete IIe kit (everything needed) ..... $39.95 + $2.50 S&H
Complete IIe kit with manual ..... $48.95 + $3.00 S&H
Hardware mod only, IIe ..... $20.00 + $2.50 S&H
Keytop overlays, IIe & Mac (ANSI & ASK) ..... $19.95 + $0.50 S&H
SCM Dvorak typing manual (DIF) ..... $10.95 + $2.50S&H
Schools/Govmnt write for discount. CA res add 6% sales tax.
Faultline Micro, POB 3147 Fullerton, CA 92634 (714) 526-5055

Price Reduced Again!
Dvorak typewriters — SCM #2500. $250 + $15 shipping
Belmont adams, 4 Park Ave, Scarborough ME 04074



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